

Decentralising natural resource governance in Ghana: critical reflections on the artisanal and small-scale mining sector

Article

Accepted Version

Creative Commons: Attribution-Noncommercial-No Derivative Works 4.0

Hirons, M. (2014) Decentralising natural resource governance in Ghana: critical reflections on the artisanal and small-scale mining sector. *Futures*, 62. pp. 21-31. ISSN 0016-3287 doi: <https://doi.org/10.1016/j.futures.2013.11.005> Available at <https://centaur.reading.ac.uk/44174/>

It is advisable to refer to the publisher's version if you intend to cite from the work. See [Guidance on citing](#).

To link to this article DOI: <http://dx.doi.org/10.1016/j.futures.2013.11.005>

Publisher: Elsevier

All outputs in CentAUR are protected by Intellectual Property Rights law, including copyright law. Copyright and IPR is retained by the creators or other copyright holders. Terms and conditions for use of this material are defined in the [End User Agreement](#).

www.reading.ac.uk/centaur

CentAUR

Central Archive at the University of Reading

Reading's research outputs online

Decentralizing natural resource governance in Ghana: Critical reflections on the artisanal and small-scale mining sector

Author: Mark Hirons

Author Details: Mark Hirons is at the School of Agriculture, Policy and Development, University of Reading, UK. Email: m.a.hirons@reading.ac.uk.

Abstract

This paper critically examines the impact of decentralization on contemporary and future governance arrangements in Ghana's artisanal and small-scale mining (ASM) sector. The sector, while providing valuable employment in rural areas, is beleaguered by environmental and social issues. Proponents of decentralization argue that re-distributing decision-making authority leads to more responsive, transparent and efficient natural resource management. The analysis presented here, however, demonstrates how weak decentralization has exacerbated the complex, conflictual and clandestine nature of local resource politics surrounding ASM. If future decentralization reforms are going to reverse this trend and improve the governance of ASM in Ghana, then facilitating the participation of traditional authorities is imperative. It is argued that doing so requires addressing the reticence regarding the role of chiefs in resource governance; simply ironing out existing technical issues with decentralization reforms is unlikely to improve the social and environmental performance of ASM in the country. In light of the chronic resource management deficiencies in Ghana, epitomized in the ASM sector, fostering frank political debates on resource governance is becoming urgent.

Key Words: Decentralization, Natural Resource Management, Artisanal Mining, Ghana

1. Introduction

The global burgeoning of artisanal and small-scale mining (ASM)¹ activities has presented policy-makers with a dilemma. On the one hand, more than 100 million people depend on the sector which directly employs 20-30 million people in approximately 70 countries [1,2,3]; and, on the other, the sector is associated with a range of environmental and social problems [4, 5, 6]. Furthermore, a poor understanding of the sector has undermined attempts to regulate and formalize its activities [7, 8, 9].

The relatively nascent literature on the sector has focused predominantly on understanding its principal protagonists [e.g. 10, 11, 12, 13], the challenges associated with reforming the sector [e.g. 9, 14, 15] and on environmental issues, particularly the (mis-)use of mercury [e.g. 5, 16, 17, 18]. Apart from analyses of the impact of structural adjustment on the sector [19, 20], very little attention has been paid to the influence of broader governance trends on ASM, including decentralization. This paper broadens understanding of ASM governance dynamics by reviewing the influence of decentralization reforms on the sector in Ghana.

Ghana is an illustrative case to examine because it has a vibrant, but poorly managed, ASM sector and is committed to deepening and accelerating the process of decentralization [19, 21]. The analysis presented is based on a series of semi-structured interviews conducted at the national and regional levels, as well as local sites around Kibi in the Eastern Region, Bibiani in the Western Region and Obuasi in the Ashanti Region of the country. Between November 2011 and August 2012 a total of 87 interviews were conducted with key stakeholders in the sector, principally, miners², national and regional level government officials, district level officials and local elected politicians, non-governmental organisations (NGOs) and traditional authorities.

The paper begins by reviewing the contemporary context and critiques of decentralization reforms in general, and then in Ghana specifically. Larson [23] argues that the natural resource management literature tends to focus on the participation of resource-users under decentralized governance regimes; therefore, this paper revolves around the role of District Assemblies in the ASM sector. The discussion shows how the politicisation of the ostensibly non-partisan District Assemblies represents an important characteristic in the largely clandestine nature of local ASM politics.

The role of chiefs under decentralized regimes is also reviewed before the penultimate section reflects on the implications of future reforms on the Ghanaian ASM sector. It is argued that integrating traditional sources of authority into decentralization reforms is imperative if they are to have any substantive impact on ASM governance. Doing so, however, requires a willingness to address the reticence regarding these issues which appears to be paralysing donors and governments; simply ironing out existing issues with reforms, such as the unelected nature of District Chief Executives, is unlikely to improve the social and environmental performance of ASM in the country. Civil society organisations, such as small-scale miners' associations, are also introduced

¹ The labour-intensive, low-tech extraction and processing of precious minerals.

² Describing participants in the sector as miners is convenient, but masks the heterogeneity of roles and activities in the sector. These include, for example, ore carriers, washers, excavator drivers, sponsors, land-owners, and buyers [22].

as potentially fruitful avenues for reconciling the diverse and diffuse sources of authority that govern the sector.

2. Rhetoric and reality: Decentralizing natural resource governance

2.1 The rise of the Good Governance agenda: Delivering conflict, complexity and corruption?

Decentralization broadly entails the shifting of responsibility for decision-making from central to local institutions. Rondinelli and Cheema [24] distinguish between four types of decentralization: 1) *deconcentration* of authority from centrally located government agencies to non-autonomous field-based administrations; 2) *delegation* of decision-making and management authority to quasi-autonomous institutions; 3) *devolution*, the transfer of authority to independent and autonomous local government, and; 4) *privatisation*, where non-state organisations assume responsibility for management. Reforms generally contain a mixture of these strategies and they are generally promoted in order to increase transparency, accountability and broaden democratic participation in decision-making. This, it is argued, makes local government service providers more responsive to local requirements, and further improves the allocative efficiency and equity of resource allocation by reducing opportunities and incentives for corruption [25, 26].

The rationale for decentralization is also reflected in the natural resource management sector where there is broad agreement that centralised resource management has failed to deliver sustainable and equitable outcomes [27]. Potentially positive outcomes of decentralized natural resource governance include the empowerment of local people to protect resources, increased revenues for local councils and people, particularly in marginal and disadvantaged groups and increasingly sustainable resource-use [28, 29]. The potential for advances in resource governance is reflected in a broad body of literature which supports the drive for decentralization by demonstrating that natural resource management is most effective when local users participate in rule-making and enforcing, decision-makers are downwardly and horizontally accountable, local institutions are endowed with discretionary powers and there is investment in their capacity [29, 30, 31, 32].

Although decentralization has long been promoted as a central component of development strategies across the world, most recently, it has been co-opted by the Bretton Woods institutes under the guise of the Good Governance agenda. This agenda emerged after the Cold War as a conceptual framework by which to assess and enable reform of international financial assistance which could no longer be justified on the basis of political expediency [33]. Furthermore, the failure of donor-led structural adjustment packages (SAPs) to deliver substantive economic or social development necessitated the adoption of a new approach. The Good Governance agenda effectively represents a set of new conditionalities aimed at making governance participatory, consensus orientated, accountable, transparent, responsive, effective and efficient, equitable, and subject to the rule of law [34].

In order to preserve the notionally apolitical remit of the World Bank, the Good Governance agenda has been promoted as a technocratic pursuit. However, as Williams [35] points out, the Good Governance discourse is rooted in Western political philosophy and as a result the mandated reforms merely reflect the neoliberal hegemony. The ostensibly country-led Poverty Reduction

Strategy Papers (PRSPs) are saturated with the language of Good Governance, but they tend to promote the same distinctly neoliberal reforms contained in their predecessors, the SAPs [36]. The pursuit of decentralization, for example, has persisted through the changing donor rhetoric. This is typified in the Ghanaian PRSP [21:99], which states:

Promoting citizen's participation in local governance will necessarily require accelerating the process of devolution of political power to the district and sub-district structures. Strengthening local governance within the concept of democratic principles implies getting the people involved in decision-making, especially grassroots participation to ensure a bottom-up approach to governance. This is necessary to nurture, uphold and entrench the principles of transparency and accountability in governance processes.

Despite the failure of centralised resource management and the corresponding policy focus on decentralization, the resistance of central authorities to cede authority has undermined governance reforms, a problem exacerbated by poor funding and implementation [28, 29]. In practice, decentralization initiatives have precipitated power struggles over resources which complicate, and as Berry [37] argues, sometimes subvert the processes of development and democratisation they are intended to support. Local elites co-opting the political agency of communities in decentralized contexts can represent a significant barrier to broad and equitable benefits accruing from governance reforms. The decentralization of corruption as a result of inadequate local accountability is amongst the key factors which lead Batterbury and Fernando [38:3] to argue that: 'New governance regimes alter the range of powers and the capabilities of state and civil society actors, in ways that are often at odds with the goals of the proponents of "good" governance.'

The altered power arrangements under decentralized governance regimes can exacerbate conflicts over natural resources [39]. These conflicts are often rooted in the differences between customary and statutory land tenure. Under the simplistic economic assumption that customary tenure was insecure and failed to incentivise investment and modernisation, early donor-led decentralization policies prioritised clarifying land tenure. However, the failure of land reforms to precipitate investment and deliver reductions in poverty amongst the land 'insecure', combined with the criticism that reforms are being used to facilitate widespread 'land grabbing' [40], means that international land policy increasingly emphasises the importance of incorporating customary tenure agreements into statute to ensure more equitable and sustainable land management [41, 42] .

Peters [43] contends, however, that the focus on disproving the economic fallacy that customary tenure is inherently insecure has led to the development of a conventional wisdom which emphasises and celebrates the negotiability, flexibility and agency of local actors. This stands at odds with evidence of increasingly competitive and conflictual land relations. Decentralization reforms which address land tenure often view customary rights as immutably traditional and informal, when they are in fact fluid constructs and have been heavily influenced by the colonial period and events since. Ubink and Quan [44] demonstrate how chiefs in Ghana, for example, are constructing customary rules which serve their own interest at the expense of equitable land-use.

Evidently, the drive for decentralization and the implementation of the Good Governance agenda has had a profound effect on resource governance. But, despite propounding to deliver sustainable and equitable resource management, reforms have generally failed to account for local elite capture, increased the complexity of resource management land tenure regimes and intensified

conflicts over resources, particularly at the local level [38, 45, 46, 47]. In the ASM sector, however, the relevance and impact of decentralization reforms has received minimal attention. Before examining the contemporary dynamics of ASM in Ghana under decentralization, it is instructive to contextualise the analysis by reviewing the country's decentralization experience.

2.2 Decentralization in Ghana: A historical review

It is often assumed that resource management in Ghana, and elsewhere, was characterised by strong centralised control in the colonial era, a feature which has broadly been sustained since. Undoubtedly, there was a dramatic re-shaping of authority during the colonial era, but in the natural resources sector this was not always the oppressive, imperialistic and militarised process which it is often portrayed as. In the mining sector, for example, the refusal of local operators to pay tributes to the chiefs during the late 19th century expedited agreements between chiefs and European mining companies. Despite the subsequent state-led attempts to formalise the resultant market in concessions, land-use was primarily dictated by indigenous authorities in alliance with metropolitan and European traders [48].

Centralised control over mineral resources in Ghana was precipitated by a collapse in the industry which led to the eventual nationalisation of all but two of the country's mines shortly after independence [49]. Dissatisfaction with the increasingly centralised and dictatorial Nkrumah regime, however, led to a series of *coup d'états* starting in 1966. During the subsequent period of military domination and political instability, the country, under the leadership of Jerry Rawlings and the Provisional National Defence Council (PNDC), embarked on the Bretton Woods sponsored Economic Recovery Programme (ERP) [50]. In an attempt to increase the legitimacy of the Rawlings government and address popular concerns regarding the austerity introduced by the ERP, the country revitalised decentralization reforms [51, 52]. Decentralization was further embedded after the 1992 democratic elections; the constitution adopted by a nationwide referendum requires the state to 'make democracy a reality by decentralizing the administrative and financial machinery of government to the regions and districts by affording all possible opportunities to the people to participate in decision-making at every level in national life and government'.³

The centre-piece of contemporary decentralization is the District Assembly, formally recognised under the PNDC Law 207 [51]. These remain central to recent reforms, including the National Decentralization Action Plan 2003-2005 and the Decentralization Policy Review mandated in the National Democratic Congress (NDC) 2008 election manifesto [53]. To date, six Metropolitan, 49 Municipal and 161 District Assemblies⁴ have been created which are distributed under 10 Regional Coordinating Councils [54]. The 1993 Local Government Act 462 made local authorities responsible for the overall development in their district, a function which is executed through the Executive Committee, supported by, *inter alia*, the Development Planning, Social Services and the Justice and Security sub-committees. Despite the progression of decentralization reforms, criticisms of the

³ Chapter 6, Section 35, Clause 6d

⁴ Under these assemblies are a series of councils which are designated by the size and character of their area. Under Metropolitan councils are the sub-metropolitan district councils; under Municipal assemblies are a series of zonal councils, and; under District Assemblies are Urban/Town/Rural councils and Unit Committees which are the smallest unit of local governance with populations between 500 and 2,500 people.

process in Ghana reflect those of the broader literature; it has had limited success due to reluctance of central government to cede power, limited fiscal autonomy, fragmented institutions and lack of organisational support [52, 55, 56].

Although decentralization in Ghana has been widely reviewed, its impact on the ASM sector has received limited attention. This paper goes on to contextualise debates on ASM in Ghana and examine the role of District Authorities in the sector. As District Assemblies are mandated to be sensitive to existing local political structures, the analysis also considers the role of chiefs in the sector. This provides the basis for reflecting on the future of ASM in Ghana under deepening and accelerating decentralization reforms.

3. Decentralization and artisanal and small-scale mining in Ghana

3.1 Artisanal and small-scale mining in Ghana: A poorly understood sector

For more than a millennium, small-scale gold mining has been a central component in Ghana's economy and in many places the low-tech, labour intensive techniques used for centuries remain recognisable [49]. In the decades since Ghana undertook structural adjustment the ASM sector has seen burgeoning growth, such that it now employs between 1 and 2 million people and is responsible for approximately 10% of national gold production⁵. This growth has been driven predominantly by a deagrarianisation in response to the failure of agriculture to provide adequate livelihoods to the country's rural communities, low barriers to entry, a large employment-seeking labour-force resulting from the entrenchment of public sector workers and cyclical-poverty preventing miners from readily abandoning activities (14, 57)

In national discourse, popular depictions of the sector characterise *galamsey*⁶ as opportunistic criminals looking to 'get-rich quick' and the sector as a whole a 'threat' and 'menace', largely as a consequence of the environmental degradation associated with activities [5, 19]. A more nuanced, and increasingly widely accepted perspective, however, appreciates that although some people engaging with *galamsey* may be investing in ASM as a means to increase their wealth, in most circumstances poverty is a critical factor for explaining the sector's growth. While acknowledging the environmental and social issues which plague the sector, this position also highlights the economic importance of the sector in areas where there are few other productive alternatives.

A superficial understanding of the dynamics and nuances of the sector compounded by a lack of basic census work [58], however, has undermined attempts to control the widespread environmental and social costs associated with ASM through formalisation, promotion of alternative livelihoods and military intervention. The financially and bureaucratically burdensome formalisation process [7, 20] in particular has exacerbated marginalisation in the sector, such that only an estimated 10% of activities operate on legal concessions⁷. Although the creation of small-scale miners' associations has improved the representation of formal small-scale operators [59], the illegal

⁵ Estimates from interview with government official [see also 2, 19]

⁶ The word *galamsey*, meaning gather them and sell, is widely used in Ghana to refer to small-scale miners and their activities.

⁷ Estimate from interview with government official.

nature of most activities has distanced government officials, policy-makers and official assistance from the sector. Furthermore, the illegality associated with the sector encourages a considerable lack of transparency regarding its dynamics. If future interventions are to address the lack of transparency and poor understanding surrounding the sector and related mis-guided policy formulation, then articulating ASM governance accurately is essential.

The following section contributes to developing a more nuanced understanding of ASM in Ghana by contrasting the formal and informal involvement of District Assemblies and their members in the sector. The analysis sheds light on the sector's local dynamics, drawing attention to the politicisation of the ostensibly non-partisan District Assemblies and how the limited extent of decentralization has resulted in local level political actors assuming ambiguous stances on ASM in order to accommodate the national discourse, which posits ASM as a social and environment threat on the one hand, with the local economic benefits accruing to their constituents on the other. Reviewing the role of chiefs in the sector highlights how decentralization has failed to facilitate the participation of key stakeholders in governance processes which exacerbates the complexities and ambiguities created by decentralization in Ghana.

3.2 District Assemblies: Hands of the president or an advocacy NGO?

Formally, the role of District Assemblies⁸ in the ASM sector is restricted to communicating and endorsing applications for small-scale mining concessions. Applications for the 25 hectare concessions, along with maps of the area, are received from the Minerals Commission and posted on the relevant District Assembly and affected community's notice board for 21 days. During this time any objections or comments are gathered, and then the application is either approved or rejected by the District Chief Executive. In addition to the comments of the community, this decision should be informed by, and integrated into, the District's development and environmental planning. In reality, however, the power to endorse or reject application is reducible to the Chief Executive. As one assembly man explained in an interview:

Sometimes the Chief Executive passes things quickly because the assembly only meet every quarter, but sometimes he passes things quickly because he knows it will not be popular and it might not pass. So the assembly can be left out and sometimes it is good as things happen quickly, but sometimes it [the assembly] fails to prevent things it would like to have a say in.

Furthermore, although the Chief Executive is ostensibly non-partisan, a commonly noted complaint amongst communities and assembly-men is that the appointment of the Chief Executive by the president effectively politicises the District Assembly⁹. This politicisation has consequences for both the granting of licences and assemblies' attempts to regulate the 90% of ASM which is illegal. District Assemblies attempt to address illegal mining through various sub-committees, principally development and environmental planning committees, but in some locations the security sub-committee is also involved. One District Planning Officer explained how they garnered support from

⁸ This discussion focuses on District Assemblies because ASM occurs predominantly in rural areas and, therefore, it is District Assemblies, rather than Metropolitan and Municipal Assemblies, which are most often involved with the sector.

⁹ Approximately two-thirds of the assembly is constituted of elected assembly members.

central government and brought the military to clear some of the illegal mining in the area, but noted that, as the assembly is financially responsible for the soldiers' food, fuel, vehicles and accommodation, and that the interventions are usually ineffective due to their temporary nature.

There is little transparency in decision-making regarding security interventions in the ASM sector. As one miner alluded to during an interview:

I don't know why the soldiers come. But the sponsors don't all belong to one party, so they will call the soldiers when they see someone from another party mining [illegally]. Most of the sponsors around here are NPP [New Patriotic Party], so when someone from the NDC [National Democratic Congress] sees you, he will inform the chief or the assembly and people in Accra and they will bring the military to disturb you.

Due to the illegal nature of most ASM activities, these political dynamics are clandestine and there is considerable hearsay involved. Most political figures hold ambiguous positions on ASM; on the one hand, aligning themselves with the national discourse requires upholding the sector as a 'menace' threatening the environment, health and social wellbeing of communities [5], and on the other, ASM represents the primary economic activity of their constituents and, in some cases, a means to fund political campaigns.

In addition to the politicisation of District Assemblies' involvement with the ASM sector leading to ambiguous approaches to managing the sector, their formal involvement is further limited by the lack of autonomy to co-ordinate with other ministries. Although the Minerals Commission and Environmental Protection Agency (EPA) have had their authority deconcentrated under decentralization [20], neither the District Assemblies nor the District Offices of these institutions have the power to implement collaborative programs without central permission. This limits local government authorities' influence over local land-use change and forces them to operate in an extremely fragmented institutional environment. As one District Assistant Co-ordinator explained in an interview:

Even though we are supposed to be implementing decentralization, the arm of central government is very heavy upon us. The central government appoints the chief executive... But the Minerals Commission and EPA are not well decentralized either, so even the chief executive has no power over their actions. It makes the District Assembly have very little power.

The lack of autonomy at the district level and the resultant sense of powerlessness is manifested in some District Officials who, in wanting to address illegal ASM, aspire to partner with conservation NGOs which lobby for tighter control of the sector. This highlights the heterogeneity of positions held within District Assemblies towards ASM, and mining more generally. It also reveals some of the tangible difficulties of balancing sometimes ambiguous and contradictory political, and personal, imperatives. As one Assembly Planning Officer explained in an interview:

The assembly can only affectively try to advocate and agitate for the welfare of the people, we are trying to take the *galamsey* on. But central government controls everything, including the revenues from mining... What we're praying for is that some NGOs will come and partner with the assembly, because they can get to the people, they have a

decentralized control and so they can represent the views of the people only. They don't have to hold their tongue when something bad is happening, and they don't have to worry about their jobs like we do here.

Weak decentralization has not rendered District Assemblies an irrelevancy for the ASM sector, but rather, it has advanced an abstruse politicisation of local resource governance. It has also contributed to a blurring of institutional boundaries as local actors vie for control over the sector, either by involving themselves for financial gain, or by exploring avenues to advocate for stronger interventions. The potential partnerships between District Assemblies and NGOs evolving out of these low-level conflicts over resource management typify the complex mosaics of authority which emerge from incomplete decentralization. They also highlight the proliferation of non-state actors who are poorly recognised in policy, yet command considerable authority of resource governance. Considering decentralization reforms, the most notable of these, conspicuous by their absence, is the chiefs. Despite their lack of formal involvement and the relative reticence regarding their role, chiefs are central to the dynamics of ASM in Ghana. Any review of decentralization and ASM, therefore, would be incomplete without due consideration given to their importance. The following section examines their position within decentralized resource governance and ASM dynamics which leads into an examination of potential future trends in the sector.

3. 3 Chiefs: Legitimate partners for development or at war with modernism?

Chiefs have been central to mineral development in Ghana for centuries; and, while they are not formally recognised in the legal framework, they remain pivotal to ASM dynamics in the country [19, 49]. They are principally involved, along with land owners, in granting access to land for mining, but some also sponsor activities and collect royalties in return for their continuing support to miners. Although formally, District Assemblies are required to integrate chiefs as partners for development, in reality the relationship between District Assemblies and traditional authorities is poorly clarified and often contentious [60]. This, combined with the variety of positions taken by chiefs towards ASM, exacerbates the clandestine politics of the sector. Nonetheless, it is apparent that chiefs are powerful actors in governing land-use in Ghana, and, as the following section argues, their relative neglect in decentralization is an important factors to consider in future reforms.

The British policy of indirect rule disrupted well-organised and established political systems and institutions for governing natural resources based on the chieftaincy system. Rather than strip the chieftaincy of power, the policy supported and emphasised the role of paramount chiefs as the most practical and affordable system of administering the country. It did, however, abrogate the sovereignty of the Ghanaian chiefs, such that their tenure depended no longer on the consent and approval of their people, but on the Governor's pleasure [61].

Since independence the institution of chieftaincy has continued to be held in high-esteem. The 1992 constitution *extended* chiefly authority over land in the North, where previously it had been held by the state [37, 44]. In local government, however, the role of chiefs has been inconsistent and remains unclear. As Ayee [60:6] explains, the provision in the 1957 constitution for a third of local government units to be composed of chiefs was overturned in the 1961 constitution which 'banished' traditional authorities from local government. This trend was repeated in the following

decades; the 1969 constitution mandated local government units to contain a third of their membership from traditional authorities, again overturned in the 1988 Local Government Law which regarded the participation of chiefs in District Assemblies as counter-revolutionary and undemocratic.

Currently, the Regional Coordinating Council has two representatives from the Regional House of Chiefs, and while there is no other provision for traditional authorities, they may be among the third of the assembly appointed by the President. The lack of representation in District Assemblies and reduction of responsibilities to land consultations and ceremonial functions has, Ayee [60] argues, often rendered the relationship between assemblies and chiefs strained. The challenge with this difficult relationship is evident in the ASM sector. The district can find it difficult to regulate activities without the support of the chief, as one District Officer explained in an interview:

The miners also go into partnership with concession owners, as well as partnering the land owners and the chiefs. This is what makes our life difficult.

Reflecting the ambiguity and range of positions displayed in local state politics, Ghanaian chiefs also take a range of positions on ASM. In general, the personal and community-wide financial benefits accruing from the activity ensure their support. In one area in the Western Region, where ASM is occurring within a forest reserve, an *Odikro*¹⁰ explained how he supported mining in an interview:

Initially we panned for gold in the rivers and did roadpicking¹¹ and then the mining gradually grew. We started with excavators in 2006, but then the forestry came and tried to make us stop. But I told them we should be allowed to do some as the activity is from our forefathers and we came to some agreement.

Miners in the Eastern Region also confirmed the centrality of chiefs in supporting the sector, saying during interviews:

The chiefs are seconding us. They want everyone to eat, to be free, because they are Ghanaian.

The chief gives a chance to mine to those who are following him, and he controls the soldiers.

Although chiefs are central to ASM dynamics in the country, their involvement in a sector which is predominantly illegal and widely associated with considerable environmental and social damage makes their role a subject of considerable contention. An incident with a District Official recorded in the researcher's field notes alludes to this:

After my interview with [120725], I was chatting with Tabi and [120725] came over and took me to one side and re-iterated to me that they did not say the chiefs are involved with providing the land for mining, or with mining in anyway. He said, they don't know how the

¹⁰ Local village 'caretaker' chief.

¹¹ Roadpicking refers to the practice of collecting gold from the land which is brought to the surface by heavy rains.

miners get the land at all, and they don't know anything about the chiefs. It was interesting that he felt he had to impress on me that this had definitely not been said.

The contention surrounding the role of traditional authorities in ASM is exacerbated by the stance taken by some chiefs against *galamsey*. One chief bemoaned, during an interview, the negative impact of mining, as well as the lack of power chiefs had over the activities:

Some of the miners have no agreement with the chief or the land owner. They are just stealing, spoiling the river and ruining cash crops. It causes great havoc in the communities... I can't even stop the mining on my own farm.

The most notable example of traditional authorities standing against illegal ASM is the *Okyenhene*¹² who established an environmental foundation and a taskforce to address deforestation and illegal mining around the Atewa Forest reserve near Kibi, Eastern Region. The task force is effectively defunct, however, as the 'palace boys' who were responsible for combating the mining, have, according to miners in the area, 'left and gone into the mining'.¹³ Locally, the issue is divisive because some ASM activities are happening in the area immediately juxtaposing the *Okyenhene's* house. Some members of the community question whether he is genuinely committed to combating the activities; they posit that he must be involved, and is therefore corrupt and benefiting from the activities.

While the role of chiefs is varied, politicised and often unclear, what remains beyond doubt is their importance in the sector. Reflecting on the challenges with regulating ASM in the district one district officer argued:

People might agitate, but to what effect, what power do they have? Some have succeeded with the help and power of chiefs, but without the chief, they don't have any power.

These interactions, and those reviewed previously, are far removed from the ASM policy context; and, as the next section elucidates, as long as decentralization reforms continue to skirt around these substantive determinants of ASM governance, they are unlikely to deliver the expected improvements governance and corollary amelioration of environmental and social conditions in the sector.

4. Future decentralization trends and implications for artisanal and small-scale mining

Having reviewed the governance dynamics of the Ghanaian ASM sector with regard to local government and traditional authorities, this section reflects on the future of ASM in light of the impending intensification of decentralization reforms. The discussion begins by outlining key areas of concern regarding current reforms, noting important areas for future decentralization planned under the Natural Resources and Environmental Governance (NREG) project. It then goes on to argue that, by adopting the rhetoric of accountability and transparency associated with decentralization but failing to articulate how reforms intend to address the patently political and predominantly clandestine nature of local ASM dynamics, the drive for deepening decentralization

¹² The Paramount Chief of the Akyem Abuakwa.

¹³ Interview with a miner

seems unlikely to deliver any substantive changes to the sector. Any improvements that might be derived from decentralization require going beyond pursuing rhetorical goals of transparency and accountability and engaging substantively with broader debates regarding the incommensurability of reforms based on liberal participatory democracy and important, non-state, sources of authority over land-use.

Although there is a broad movement away from state-based donor interventions towards market-based programs [62, 63], decentralization remains a central component of development plans in Ghana and elsewhere. Decentralization is often framed as a technical and internal political matter. But, as Mohan [51] explains, external involvement has a profound effect on the emerging political dynamics. In Ghana's ASM sector, donor involvement, and the resultant national policy focus, is currently channelled predominantly through the NREG program. This World Bank led project aims to harmonise environment and resource management issues which have historically been fragmented across the multitude of donors active in Ghana. In the ASM sector, the NREG program is specifically concerned with identifying suitable areas for activities and improving the formalisation process in the sector. More broadly, the program builds on the PRSP which, as noted previously, calls for a strengthening and acceleration of the decentralization process, especially focussing on building decentralized environmental capacity at district levels and decentralizing the Environmental Impact Assessment (EIA) process.

There are, however, several issues with existing decentralization reforms which will require addressing before future reforms can be expected to improve ASM management. These include the poor alignment between district level offices and the lack of political and fiscal autonomy at a district level. These issues, as will be explained below, drastically undermine the notion that decentralization furthers policy responsiveness, accountability and transparency.

Where partial decentralization has occurred, for example through the establishment of District Minerals Commission offices, there is often poor alignment between the jurisdiction of Minerals Commission offices and District Assemblies. This is partly due to the relatively large area of authority that ministry district offices have compared with administrative districts; there are 11 district offices for the Minerals Commission, compared to 216 Metropolitan, Municipal and District Assemblies. The resultant mismatch of jurisdictions compounds the poorly clarified nature of the relationship between district offices of ministries and District Assemblies. Additionally, as noted above, there is little autonomy at the district level for collaboration between agencies. Expecting the creation of new district EPA offices, a central component of the NREG program, to increase accountability and transparency of environmental management without linking them explicitly to district development and environmental planning sub-committees seems unrealistic. Continued disconnection between state agencies, as well as other key actors, also reduces the likelihood that policy and management will be responsive to local requirements.

The lack of revenue generating capacity and the lack of power over fiscal considerations at the district level are also noted as further key barriers to decentralization [56]. Furthermore, several District Assemblies have years of unaudited accounts due to the overstretched and unevenly distributed nature of the Ghana Audit Service [21]. This evidently undermines the theoretical gains in transparency and accountability associated with decentralization. The unelected positions within District Assemblies, particularly the District Chief Executive, further exacerbate these issues. Ribot

[64] argues that only elected representatives are accountable to their populations, a contention asserted by one Assemblyman in an interview:

Personally, I believe he [District Chief Executive] should be elected. It would help make them more responsible to the people. Then there would be some mechanism where he can be removed if he is not performing. As it stands he only works for the government and as long as he is doing ok by them, he can't be removed, no matter what the communities think.

The common assumption underlying these critiques of decentralization in Ghana is that increasing decentralization and ironing out technical issues will result in the delivery of the potential benefits espoused. In the case of ASM, however, proponents of decentralization fail to recognise that there is already extremely limited centralised control over the sector. The state, through a poorly framed and implemented formalisation program, has legislated itself out of direct control, and driven a large proportion of the governance of the sector into the shadows. The ASM sector in Ghana already operates in a decentralized fashion, but in a non-state realm. Accordingly, future reforms, if they are to have any substantive impact on the sector, should focus on how to integrate the existing dynamics of the sector into state apparatus. This contention does not suggest that addressing current weaknesses and issues in decentralization reform is unnecessary, but rather emphasises the importance of engaging meaningfully with local realities; deepening and accelerating decentralization in Ghana may be necessary to address governance in the ASM sector, but it will not be sufficient *per se*.

In addition to recognising ASM as conduit for economic and political rent-seeking at the district level, the centrality of chiefs to the governance of ASM in Ghana means their involvement in decision-making is imperative. Without the participation of traditional authorities, decisions made regarding ASM at the district-level will continue to have minimal influence on the *de facto* operation of the sector. Reconciling customary and statutory governance arrangements has been noted previously as a prerequisite for successful management in the ASM sector [65, 66]. As Denney [62] highlights, however, the donor shift away from state-led reform based on liberal participatory democracy towards engaging with non-state actors is problematic. In Sierra Leone the UK Department for International Development (DFID), the author [62] explains, only flirted superficially with chieftaincy reform as they only partially understood the context and complexity of traditional authority.

This suggests that when the involvement of non-state actors potentially violates the liberal democratic principles on which donors base their interventions, there is a tendency to neglect important actors in reforms. The almost total omission of chiefs from NREG proposals, which only mention chiefs as custodians of the land, supports this contention. The importance of traditional authorities transcends the ASM sector and it is well noted in Ghana [60, 61]. But, the reticence of donors regarding the issue does nothing to encourage the political discussions required to resolve the existing antagonism between state and traditional authorities. The activities of donors distracting environmental managers from issues of importance is compounded by the state policy of

non-interference with ‘chieftaincy issues’¹⁴, something which Ubink and Quan [44] suggest is so pervasive that it prevents an accurate and open articulation of land-based issues in Ghana.

The growing stature of small-scale miners’ associations may provide some potential for civil-society institutions to play a role in bridging the diverse and separate sources of authority in the ASM sector. The formation of the National Small-scale Miners’ Association was encouraged by the Ghana Chamber of Mines so that small-scale miners could have a federation which represents them at the Chamber level [59]. In addition to national representation, local branches of the association are actively engaged with representing the interests of small-scale miners and acting as a mediator in ASM-related conflicts. The effectiveness and desirability of these institutions is evidenced by the formation of an informal small-scale miners association in Obuasi, a town noted for its resource conflicts. Even though activities remain illegal, this organisation is proving indispensable in resolving conflicts between illegal miners, large-scale mining companies and communities and is effectively ensuring the legitimate representation and participation of local resource-users in decision-making and resource-use management [67]. Supporting and encouraging the formation of civic institutions such as formal and informal small-scale miners’ associations could augment existing decentralization reforms and provide a platform for overcoming the current impasse between state and traditional authorities.

Addo-Fening [61] notes how chiefs’ popular legitimacy could be harnessed to cement the democratic gains of the preceding decades. However, despite being central to resource governance, propounding their involvement in democratic processes such as decentralization poses considerable challenges, because, as Ribot [64] points out, they ‘may not represent or be accountable to local populations’. The participation of traditional authorities in state-based resource governance institutions will not necessarily improve the environmental management of the sector or the social conditions of the participants. But what is certain is that business-as-usual decentralization reforms are unlikely to have any substantive impact on the ASM sector unless traditional authorities are brought into policy discussions.

Incorporating normative principles of accountability and transparency with traditional authority poses significant challenges. Fostering and supporting frank political discussions between state institutions and traditional authorities on resource-use debates is an essential first step in addressing the root of governance deficiencies in the ASM sector. However, strategies for integrating traditional and emerging sources of authority, which do not necessarily correspond to the democratic reforms of local government institutions, and addressing the numerous other challenges outlined in this section are neither easily formulated nor immediately apparent. Including traditional authorities in the formal governance of ASM would, at least, add some legitimacy to the notion that decentralization increases meaningful participation in resource governance.

5. Conclusion

¹⁴ The term ‘chieftaincy issues’ is widely used to refer to issues regarding land ownership and chiefly jurisdiction. The situation is further complicated in the case of ASM as the management of minerals, however, is not a chieftaincy issue, as minerals are vested in the president.

This paper contributes to the understanding of ASM in Ghana, and elsewhere, by assessing the influence of decentralization reforms on the sector and articulating the complexity of related local political dynamics. Despite being endowed with overall responsibility for development, the role of local government in controlling and regulating ASM activities has been undermined by weak decentralization. Particularly, in the case of reviewing small-scale mining applications, the concentration of power within the centrally appointed District Chief Executive undermines the participation of the resource-users, traditional authorities and assembly members. Furthermore, District Assemblies complicate ASM governance as political actors seek to gain economic and political rents from the sector.

The informal nature of most ASM operations prevents the inclusion of key actors in formal decentralized governance institutions and obscures the sector's operations. The need to balance considerations of the negative environmental and social impacts with the substantial local economic benefits further complicates analysis of the sector as local authorities adopt ambiguous and contradictory positions towards its activities. This situation typifies how, instead of delivering improved accountability, transparency and responsiveness of governance, decentralization has actually increased the complexity of resource management contexts. The findings also re-iterate the failure of ASM policies in Ghana to capture the reality of the sector's dynamics.

If future decentralization reforms are to be expected to improve the governance and management of ASM, then addressing the challenge of integrating traditional and state authorities requires explicit attention. Although small-scale miners' associations potentially represent institutions which could bridge the current impasse in the ASM sector, the reluctance of donors to acknowledge these challenges, typified by the omission of chiefs from the NREG program in Ghana, simply serves to divert attention away from foundational questions of governance and postpone over-due deliberations. This contention reflects Mohan's [51] argument, presented almost two decades ago, that donor-led decentralization reforms compromise national sovereignty and that establishing and strengthening centralized sovereignty is essential in order to foster political debate on the structure of African states. In light of chronic resource management deficiencies, epitomized in the ASM sector, the need to open and engage in political debates on resource governance remains prevalent.

Acknowledgements

The author would like to thank Atta for his assistance during fieldwork, all of the respondents who gave their valuable time to contribute to this research, Professor Hilson for his support and the participants of the 'The Future of Small-Scale Mining in Sub-Saharan Africa: Critical Perspectives' conference for their feedback. The author is also grateful for two anonymous reviewers who helped improve the paper. This research was funded by an ESRC-NERC interdisciplinary studentship.

References

[1] International Labour Organisation (ILO), Social and labour issues in small-scale mines, Report for discussion at the Tripartite Meeting on Social and Labour Issues in Small-scale mines. ILO, Geneva, 1999.

- [2] A. Buxton, Responding to the challenge of artisanal and small-scale mining. How can knowledge networks help? International Institute for Environment and Development, London, 2013.
- [3] F. Hruschka, C. Echavarria, Rock-Solid Changes: For Responsible Artisanal Mining, ARM Series on Responsible ASM No. 3, ARM, Medellín, Colombia, Available online: www.communitymining.org/attachments/059_RSC_FINAL_web_low.pdf, 2011
- [4] G. Hilson, Small-scale mining, poverty and economic development in sub-Saharan Africa: An overview, *Resources Policy*, 34 (2009) 1-5.
- [5] P. Tschakert, K. Singha, Contaminated identities: Mercury and marginalization in Ghana's artisanal mining sector, *Geoforum*, 38 (2007) 1304-1321.
- [6] J. Schure, V. Ingram, J.C. Tieguhong, C. Ndikumagenge, Is the god of diamonds alone? The role of institutions in artisanal mining in forest landscapes, Congo Basin, *Resources Policy*, 36 (2011) 363-371.
- [7] G. Hilson, What is wrong with the Global Support Facility for small-scale mining? *Progress in Development Studies*, 7 (2007) 235-249.
- [8] S.J. Spiegel, Governance Institutions, Resource Rights Regimes, and the Informal Mining Sector: Regulatory Complexities in Indonesia, *World Development*, 40 (2012) 189-205.
- [9] B.A. Teschner, Small-scale mining in Ghana: The government and the galamsey, *Resources Policy*, 37 (2012) 308-314.
- [10] N. Yakovleva, Perspectives on female participation in artisanal and small-scale mining: A case study of Birim North District of Ghana, *Resources Policy*, 32 (2007) 29-41.
- [11] D.F. Bryceson, J.B. Jønsson, Gold Digging Careers in Rural East Africa: Small-Scale Miners' Livelihood Choices, *World Development*, 38 (2010) 379-392.
- [12] F.K. Nyame, J.A. Grant, From carats to karats: explaining the shift from diamond to gold mining by artisanal miners in Ghana, *Journal of Cleaner Production*, 29-30 (2012) 163-172.
- [13] G. Hilson, Family Hardship and Cultural Values: Child Labor in Malian Small-Scale Gold Mining Communities, *World Development*, 40 (2012) 1663-1674.
- [14] S.M. Banchirigah, How have reforms fuelled the expansion of artisanal mining? Evidence from sub-Saharan Africa, *Resources Policy*, 31 (2006) 165-171.
- [15] J. Childs, Reforming small-scale mining in sub-Saharan Africa: Political and ideological challenges to a Fair Trade gold initiative, *Resources Policy*, 33 (2008), 203-209.
- [16] G.D. Peterson, M. Heemskerk, Deforestation and forest regeneration following small-scale gold mining in the Amazon: the case of Suriname, *Environmental Conservation*, 28 (2001) 117-126.
- [17] B.N.A. Aryee, B.K. Ntibery, E. Atorkui, Trends in the small-scale mining of precious minerals in Ghana: a perspective on its environmental impact, *Journal of Cleaner Production*, 11 (2003) 131-140.

- [18] J.B. Jønsson, P.W.U. Appel, R.T. Chibunda, A matter of approach: the retort's potential to reduce mercury consumption within small-scale gold mining settlements in Tanzania, *Journal of Cleaner Production*, 17 (2009) 77-86.
- [19] S.M. Banchirigah, Challenges with eradicating illegal mining in Ghana: A perspective from the grassroots, *Resources Policy*, 33 (2008) 29-38.
- [20] C. Potter, G. Hilson, Structural Adjustment and Subsistence Industry: Artisanal Gold Mining in Ghana, *Development and Change*, 36 (2005), 103-131.
- [21] Republic of Ghana, Growth and Poverty Reduction Strategy (GPRS II) (2006 – 2009), 2005, Available online:
<http://planipolis.iiep.unesco.org/upload/Ghana/PRSP/Ghana%20PRSP%20June%202006.pdf>
 [09.06.2013].
- [22] G.Hilson, ed., Small-scale mining, rural subsistence and poverty in West Africa, Practical Action, Bourton-on-Dunsmore, 2006.
- [23] A.M. Larson, Natural Resources and Decentralization in Nicaragua: Are Local Governments Up to the Job? *World Development*, 30 (2002) 17-31.
- [24] D.A. Rondinelli, G.S. Cheema, eds., Decentralization and Development, Sage, London, 1983.
- [25] United Nations Development Programme (UNDP), The UNDP Role In Decentralization and Local Governance: A Joint UNDP–Government of Germany Evaluation (2000). Available online:
http://web.undp.org/evaluation/documents/decentralization_final_report.pdf [30.10.13].
- [26] World Bank, Decentralization Briefing Notes - WBI Working Papers (1999). Available online
<http://info.worldbank.org/etools/docs/library/8680/Decentralization%20Briefing%20Notes.pdf>
 [30.10.13]
- [27] C. Sandbrook, F. Nelson, W.M. Adams, A. Agrawal, Carbon, forests and the REDD paradox, *Oryx*, 44 (2010) 330–334.
- [28] J. Ribot, Democratic decentralization of natural resources: institutionalizing popular participation. World Resources Institute, Washington D.C., 2002.
- [29] J. Ribot, Waiting for Democracy - The Politics of Choice Natural Resource Decentralization. World Resources Institute, Washington D.C., 2004.
- [30] H. Nagendra, Drivers of reforestation in human-dominated forests, *Proceedings of the National Academy of Sciences of the USA*, 104 (2007) 15218–15223.
- [31] A. Chhatre, A. Agrawal, Forest commons and local enforcement, *Proceedings of the National Academy of Sciences*, 105 (2008), 13286–13291.
- [32] E. Ostrom, A general framework for analysing sustainability of social-ecological systems, *Science*, 325 (2009) 419–422.

- [33] M. Doornbos, 'Good Governance': The Rise and Decline of a Policy Metaphor? *The Journal of Development Studies*, 37 (2001) 93-108.
- [34] United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), What is good governance? 2007, Available online: <http://www.unescap.org/pdd/prs/ProjectActivities/Ongoing/gg/governance.pdf> [14.06.2013].
- [35] G. Williams, Good Governance, *International Encyclopedia of Human Geography*, (2009) 606-614.
- [36] J. Glenn, J, Global Governance and the Democratic Deficit: stifling the voice of the South, *Third World Quarterly*, 28 (2008) 217-238.
- [37] S. Berry, Reinventing the Local? Privatization, Decentralization and The Politics Of Resource Management: Examples from Africa, *African Study Monographs*, 25 (2004) 79-101.
- [38] S. Batterbury, J. Fernando, Rescaling Governance and the Impacts of Political and Environmental Decentralization: An Introduction, *World Development*, 34 (2006) 1851-1863.
- [39] Y. Yasmi, G. Anshari, H. Komarudin, S. Syarif Alqadri, Stakeholder conflicts and forest decentralization policies in West Kalimantan: their dynamics and implications for future forest management, *Forests, Trees and Livelihoods*, 16 (2006) 167-180.
- [40] S.M. Borras Jr., R. Hall, I. Scoones, B. White, W. Wolford. Towards a better understanding of global land grabbing: an editorial introduction, *Journal of Peasant Studies*, 38 (2011) 209-216.
- [41] K. Deininger, H. Binswanger, The evolution of the World Bank's land policy: principles, experience, and future challenges, *The World Bank Research Observer*, 14 (1999) 247-276.
- [42] C. Toulmin, J. Quan, *Evolving Land Rights, Tenure and Policy in Sub-Saharan Africa*, DFID, IIED and NRI, London, 2000.
- [43] P. Peters, Inequality and Social Conflict Over Land in Africa, *Journal of Agrarian Change*, 4 (2004) 269-314.
- [44] J.M. Ubink, J.F. Quan, How to combine tradition and modernity? Regulating customary land management in Ghana, *Land-use Policy*, 25 (2008) 198-213.
- [45] T. Ocallaghan, Patience is a virtue: Problems of regulatory governance in the Indonesian mining sector, *Resources Policy*, 35 (2010) 218-225.
- [46] A. Ravikumar, K. Andersson, A. Larson, Decentralization and forest-related conflicts in Latin America, *Forest Policy and Economics*, (2012), In press: <http://dx.doi.org/10.1016/j.forpol.2012.07.005>.
- [47] Y. Yasmi, H. Schanz, A. Salim, Manifestation of conflict escalation in natural resource management, *Environmental Science and Policy*, 9, (2006) 538-546.
- [48] J. Silver, The Failure of European Mining Companies in the Nineteenth-Century Gold Coast, *The Journal of African History*, 22 (1981) 511-529.

- [49] G. Hilson, Harvesting mineral riches: 1000 years of gold mining in Ghana, *Resources Policy*, 28 (2002) 13-26.
- [50] B. Agyeman-Duah, Fifty Years in Perspective, in: B. Agyeman-Duah (Ed.) *Ghana – Governance in the Fourth Republic*, The Ghana centre of Democratic Development, Digibooks, Tema, Ghana, 2008, pp. 1-31.
- [51] G. Mohan, Adjustment and decentralization in Ghana: a case of diminished sovereignty, *Political Geography*, 15 (1996) 75-94.
- [52] J. Ayee, Civil Service Reform in Ghana: A Case Study of Contemporary Reform Problems in Africa. *African Journal of Political Science*, 6 (2001) 1-41.
- [53] B.D. Hoffman, K.M. Metzroth, The Political Economy of Decentralization in Ghana, report prepared for the World Bank, 2010, Available online: <http://www.democracyandsociety.com/blog/wp-content/uploads/2010/08/Political-Economy-Decentralization-in-Ghana-final.pdf> (10.06.2013)
- [54] Ghana Districts, Break Down of Metropolitan, Municipal and District Assemblies in Ghana, 2013, Available online: http://www.ghanadistricts.com/pdfs/all_mmdas_in_ghana.pdf (10.06.2013)
- [55] G. Crawford, 'Making democracy a reality'? The politics of decentralization and the limits to local democracy in Ghana, *Journal of Contemporary African Studies*, 27 (2009) 57-83.
- [56] D.A. Wardell, C. Lund, Governing Access to Forests in Northern Ghana: Micro-Politics and the Rents of Non-Enforcement, *World Development*, 34 (2006) 1887-1906.
- [57] G. Hilson, S.M. Banchirigah, De-Agrarianization, Re-Agrarianization and Local Economic Development: Re-Orienting Livelihoods in African Artisanal Mining Communities, *Policy Sciences* 43 (2010) 157-180.
- [58] G. Hilson, O. Maponga, How has a shortage of census and geological information impeded the regularization of artisanal and small-scale mining? *Natural Resources Forum* 28 (2004) 22-33.
- [59] R. Amankwah, C. Amin-Sackey, Strategies for sustainable development of the small-scale gold and diamond mining industry of Ghana, *Resources Policy* 29 (2003) 131-138.
- [60] J.R.A. Ayee, Traditional Leadership and Local Governance in Africa: The Ghanaian Experience, Paper presented at the Fourth National Annual Local Government Conference on the theme "Traditional Leadership and Local Governance in a Democratic South Africa: Quo Vadis?" Durban 30-31 July 2007.
- [61] R. Addo-Fening. The Relevance of Traditional Governance, in: B. Agyeman-Duah (Ed.) *Ghana – Governance in the Fourth Republic*, The Ghana centre of Democratic Development, Digibooks, Tema, Ghana, (2008), pp. 32-56.
- [62] L. Denney, Liberal Chiefs or Illiberal Development? The Challenge of Engaging Chiefs in DFID's Security Sector Reform Programme in Sierra Leone, *Development Policy Review*, 31, (2013) 5-25.

- [63] P. Newell, J.G. Frynas, Beyond CSR? Business, poverty and social justice: an introduction, *Third World Quarterly*, 28 (2007) 669-681.
- [64] J. Ribot, Decentralization, Participation and Accountability in Sahelian Forestry, *Africa*, 69 (1999) 23-65.
- [65] S. Siegel, M.M. Veiga, Artisanal and small-scale mining as an extralegal economy: De Soto and the redefinition of "formalization", *Resources Policy*, 34 (2009) 51-56.
- [66] F.K. Nyame, J. Blocher, Influence of land tenure practices on artisanal mining activity in Ghana, *Resources Policy*, 35 (2010) 47-53.
- [67] G.A. Okoh. Grievance and conflict in Ghana's gold mining industry: The case of Obuasi, *Futures*, In Press (2013) <http://dx.doi.org/10.1016/j.futures.2013.09.007>.